

**APPARATUS FOR PRE-AUTHENTICATION OF USERS USING ONE-TIME
PASSWORDS**

ABSTRACT OF THE DISCLOSURE

5 A computer program product for a client computing system including a
processor includes code that directs the processor to request a challenge from a authentication
server, code that directs the processor to receive the challenge from the authentication server
via a first secure communications channel, the challenge comprising an identity code, code
that directs the processor to receive user authentication data from a user, code that directs the
10 processor to determine a private key and a digital certificate in response to the user
authentication data, code that directs the processor to form a digital signature in response to
the identity code and the private key, code that directs the processor to communicate the
digital signature to the authentication server, code that directs the processor to communicate
the digital certificate to the authentication server, the digital certificate comprising a public
15 key in an encrypted form, and code that directs the processor to communicate network user
authentication data and the identity code to the authentication server via a security server,
wherein the authentication server activates the identity code when the digital signature is
verified, and wherein the codes reside on a tangible media.

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